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DR. ROBIN'S MEMOIR ON THE ANATOMY AND PHYSIOLOGY OF
THE MUCOUS MEMBRANE AND THE EPITHELIUM OF THE
UTERUS DURING PREGNANCY.

[Continued from page 266.]

§ 4.—*Condition of the Internal Surface of the Uterus at the Spot where the Placenta was located, after that Organ has been detached.*—Let us now see what we find on the uterine side, just at the surface where the placenta was inserted. We here observe that this organ has retained the inter-utero-placental decidua (*la sérotine*), except the thin superficial layer which has been detached, and carried away by the placenta.

This portion of the uterine mucous membrane, left full of vessels distended under the form of large sinuses, in reality has not yet become deciduous, at least in a direct way. That condition lasts all the time that its vessels are continuous with those of the muscular coat, and while, being vascular, it continues to be nourished. This peculiarity is the more striking, since we are always astonished to see, on dissection, how the tissue proper of the mucous coat which forms this membrane, is very small when compared with the diameter of the large sinuses between which it is interposed under the form of thin coats or walls of separation. This tissue is of a reddish color, deeper than the decidua properly so called. Finally, and it is an important fact, it does not show itself between the inter-utero-placental decidua and the muscular coat of the uterus, a new thin mucous coat of replacement, as one already exists there between the latter and the uterine decidua.

Moreover it is only by degrees, during the period of the lochia, that the inter-utero-placental decidua exfoliates and is eliminated. At that time only it is replaced by a continuation of the thin mucous coat of replacement over the place which it occupied and to the depth of the exfoliation.

The inter-utero-placental decidua exhibits a very different appearance, according as we examine it, the placenta still adhering in

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the uterus of a woman who has died at the seventh or ninth month, or in that of a woman who has died from two to ten days after confinement. In the first it is thin, as large as the placenta, the sinuses are flattened, more broad than thick, except in case of distension by an injection, and only those least bulky are cylindrical. Its surface is slightly roughened, but it is relatively smooth when compared with what is found in the second case.

After confinement, the contraction of the uterine walls diminishes very much the extent of the surface of the inter-utero-placental decidua. It is soon reduced to a breadth of $2\frac{1}{4}$ to 3 inches nearly, and this diameter goes on constantly diminishing. From being almost circular, which it was, its form becomes irregularly oval, its great diameter lying in the direction of the length of the uterus, its outline sinuous, dentated and ragged. This membrane also gains in thickness what it loses in extent during this contraction. At the same time its surface becomes wrinkled, roughened and nodulated; its tissue becomes brownish or ruddy in color, and it softens by degrees, taking on a surface of mucous or pultaceous consistence.

In a woman who has died some days after confinement, we find the remains of the inter-utero-placental decidua, or the serotina, have acquired a thickness of from 15 to 18 millimetres ($\frac{1}{2}$ to $\frac{3}{4}$ of an inch), and even more in places. The salient irregular edges of this layer which is, as it were, applied to the internal face of the uterus, and which adhere intimately to it, are continuous with the new thin mucous membrane which clothes the rest of the uterus. The latter is of a rosy color, generally smooth, slightly glistening also, except in those cases in which a sanguineous or purulent mucus covers it; the surface of the thick layer which forms the inter-utero-placental decidua, on the contrary, under these conditions is rough, as it were tuberculous or irregularly nodulated here and there. It has a pultaceous or mucous aspect, softened and easy to raise by scraping; its color is a reddish brown or gray, inclining sometimes to black; at other times, on the summit of the irregularities or projections of the surface, and even uniformly, it takes a gray tint, in consequence of a true mortification.

It is not rare to see, on the surface of this coat, vascular orifices filled with reddish-brown or slightly-colored fibrinous clots. If we follow these clots through the thickness of the membrane, by dissection with the scissors, we soon come to the sinuses of the uterine muscular coat, supplied with vessels very voluminous at this place as well as elsewhere. We are struck with the cavernous, areolar appearance which the numerous anastomoses of these large vessels give this coat, as often as we open them. At the same time we notice that its thickening and the projections which it sends out on the internal surface of the uterus, are chiefly owing to the coagula which fill and distend the sinuses more or

less. As soon as we empty these out, we perceive that the spaces which separate them are very inconsiderable; they are represented by a slight thickness of tissue which adheres intimately to the muscular coat of the uterus, but the latter, being much softer, can be easily and entirely separated by scraping.

In autopsies of puerperal fevers, I have often seen this coat, rough or superficially flaky, blackish and pultaceous, taken for the remnants of the foetal placenta adherent to the uterus and in process of decomposition, by persons who had no knowledge of the previous facts. We find, in fact, this coat more or less softened and putrefied under the preceding conditions.

The farther the time of the death is from that of the delivery, the more the remnants of the inter-utero-placental decidua diminish in extent and thickness, and the more they soften. But even when their gradual disappearance has become complete, the place at first occupied by this coat remains a long time irre recognizable, for the reason that the new mucous membrane which has replaced it is rougher and more projecting than that which occupies the rest of the uterine surface, and which had begun to form before the delivery.

§ 5.—*Upon certain Peculiarities in the Mode of Connection between the Placenta and the Uterine Mucous Membrane in various Domesticated Mammalia.*—If we examine the uterus of a doe rabbit at the beginning of gestation, we there find bi-lobate placentas corresponding to each ovum; but these placentas rest directly upon a large projection of the uterine mucous membrane resembling a *mucous layer*. When we detach these placentas, the surface of the layers in question appears slightly depressed at the centre, like an ulcer, on account of a projecting edge which runs circularly beneath the rest of the layer. This depression appears tufted and of a paler red than the rest. These are the projections of the mucous membrane which constitute the maternal placentas.

The swollen portion of the mucous membrane which forms the maternal placenta, shows a homogeneous section, a fleshy aspect, and is reddish gray. It is made up of a woof of lamellar tissue, as in the mucous membrane in its neighborhood; but besides this, we see there a considerable quantity of fibro-plastic fusiform elements, and especially of homogeneous amorphous matter, finely granular, and interposed between the fibres. The vessels, more voluminous than in the rest of the mucous membrane, for all that, do not present the aspect of *sinuses*. I have never found in this tissue, which owes its thickness to this amorphous matter and to the fibro-plastic elements, any follicular glands, similar to those of the mucous membrane, interposed between the ova. The surface of these enlargements, or maternal placentas, is plicated, and presents a considerable hypertrophy of the conical vascular villousities, which we see in every part of the mucous membrane. These folds and villousities are dovetailed with the villousities of the foetal placenta,

by simple juxtaposition, however, and without any radicular penetration one into the other.

The folds and villousities of the maternal placentas are covered by a grayish coat, in which we find a few scattered fragments of the villousities of the foetal placenta, torn at the separation, but especially large epithelial cells with numerous nuclei, and the sheaths which they form about the villousities of the hypertrophied mucous membrane. These are the hypertrophied cells themselves, and in which are noticed very many nuclei, which make up the greater part of this gray coat.

We find in the bitch, also, a grayish coat, analogous to what we have just pointed out in the doe rabbit, but it is more adherent to the mucous membrane, and a portion of it remains attached for some days after the separation—a very small portion, however.

In the sow, the mucous membrane of the uterus, naturally at first sufficiently movable upon the subjacent coat, gains still more in amplitude and mobility under the influence of the impregnation. Very much congested throughout its whole extent, it presents to the view here and there a kind of caruncles or appendices formed by the duplicature of the mucous membrane, which for the most part are in a state of manifest oedema, and have somewhat the appearance of small cysts. The whole surface, besides, is lubricated with abundant mucous secretions, which bathe the envelopes of the foetus and facilitate their gliding about. The foetal pouches are not intimately connected with the uterine mucous membrane at any point of their surface; they are only in contact with this membrane. From this arrangement it happens that we can, at any moment of the pregnancy, obliterate all these foetal pouches, one after the other, with the greatest facility; simple pressure, applied in a downward direction, to overcome the contractions which separate these pouches, suffices to attain this result. During labor, the envelopes of the foetus do nothing but glide over the mucous membrane of the uterus; there is absolutely nothing detached from them, and at no place is there any solution of continuity. The vessels of the mucous membrane are more voluminous at the location of the ovum than elsewhere, but they nowhere form sinuses. The papillae of the mucous membrane are larger in these spots. Apart from this slight difference, the mucous membrane is in exactly the same condition in the points corresponding to the ova, as in the intervening spaces. The grayish coat, soft and pulpy, which lies on the surface of the allantois, analogous to that of the doe rabbit, but more delicate, is formed of epithelial cells more bulky than in other parts; the latter show an enlarged nucleus, with a nucleolus. These cells are sometimes isolated, and then again re-united into layers or sheaths, preserving the form of the vascular papillae which they cover. We find among them sheaths of nucleated epithelium, showing the tubular glands or mucous follicles which clothe this kind of epithelium.

In the sow, the allantois, in which the branches of the umbilical artery of the foetus ramify, and which represents the placenta, is constituted as in the human species (see §1 of the first part of this memoir), except that its tissue is paler and more transparent; the nuclei are more separated, because the cells, to form which they are joined together, are larger; the nuclei, at the same time, are a little smaller and more transparent; it is the same in the cow. The allantois of the sow is studded with little papilliform projections, flattened, large, excavated, traversed by a single capillary loop, and sinuous, in which the arterial and the venous branch are distinctly separated from each other. The capillaries of the allantois, for the rest, have a similar structure with the capillaries which we find in the tissues of the adult.

The allantois of the sow is uniformly clothed with a layer of prismatic epithelial cells, finely granulated, regular, and each showing a little nucleus, oftener spherical than oval, and without any nucleolus. Here and there soft, pulpy projections appear on the allantois, forming a sort of gray marbling on the surface of this membrane. They are formed by the accumulation of prismatic cells similar to the preceding, mixed with tessellated and spherical cells having large nuclei, like those which line the uterine mucous membrane. I shall describe these in §3 of the second part of this essay.

It is through this epithelial coat, soft, grayish and pulpy, which, as I have already said, in the sow, resembles the grayish, friable, *inter-utero-placental* coat of rabbits with young, that the phenomena of the exchange between the constituents of the maternal blood and that of the foetal take place at one and the same time. Here, also, the connections between the mother and the foetus are connections of contiguity and not of continuity, and the exchange between these two is made molecule by molecule, by endosmosis, through quite a considerable thickness of tissue, in a mediate way, and not by direct communication.

These cells correspond with those I have pointed out in the human female in the *inter-utero-placental decidua*. And still further, they are the ones which constitute that coat of a whitish gray, opaque, soft, friable, croupy or diphtheritic aspect, or, better still, a mortified appearance, which is interposed, in the rabbit, between the *foetal placenta* and the thick layer of uterine mucous membrane already named the *maternal placenta*. This grayish, friable, epithelial coat is the only portion of the uterine mucous membrane which becomes deciduous in the rabbit, and, besides, it is not formed from anything but the epithelial coat interposed between the mucous membrane, properly so called, and the foetal placenta, which goes on gradually thickening in proportion as the pregnancy advances; it corresponds, in animals, to the epithelial coat of the *inter-utero-placental decidua* in the human female, pointed out in the preceding paragraph. The friable, *inter-utero-placental* coat is thick enough

at the end of pregnancy to form a kind of layer or grayish cushion, which is not very strongly attached to the mucous membrane itself, from which it may be easily separated. It is carried away by the foetal placenta, with which it has an equally slight adherence, for the reason that it interlocks itself, to a limited degree, with the folds or filaments of the surface, but nevertheless is easily separated.

This grayish, friable, non-vascular coat, made up of epithelial cells, described farther on in the third part of this memoir, is formed of a single row of cells at the beginning of gestation, and has not, yet, the characteristics, already described, which it acquires by degrees as it thickens. It then makes the connections between the foetal and the maternal blood more and more mediate, since it is through it, that the venous elements of the vascular portion of the uterine mucous membrane come in contact, molecule by molecule, with the placental villousities, and the immediate elements rejected by the foetus are in the same way transmitted by exosmosis. The expulsion of the placenta easily takes place in consequence of its friability and slight adhesion. It is very probable that delivery takes place when the thickness of this grayish epithelial coat has become so great that this transition of matter from the foetus to the mother, and reciprocally, may become impossible or too slow.

In the cord, the chorion and its villousities are formed of cells which are placed in juxtaposition with each other, but remain still easy to separate and isolate from each other when the foetus has grown to the length of about seven inches. In the chorion itself, they are applied against the coat of lamellar tissue interposed between the chorion and the amnios. Along the villousities, they are applied directly over the enlarged capillaries which they represent. The cells easily detach themselves from the capillaries, whether they remain juxtaposed under the form of a sheath, or float isolated from each other. These cells are from fifteen to twenty-five thousandths of a millimetre in size ($\frac{1}{10000}$ to $\frac{1}{2000}$ of an inch), and are polyhedral, with rounded angles, and their sides curved, where they reciprocally press on each other. Their lines of contact are pale, grayish and regular. When they are isolated, for the most part they become spherical. Their outline is regular; their substance grayish and fairly granulated. They have one or two spherical nuclei, of from eight to ten thousandths of a millimetre (about $\frac{1}{10000}$ to $\frac{1}{2000}$ of an inch) in diameter, the most of them without nucleoli, but containing many deep-colored granulations sufficiently large. We find also with these isolated cells, in the field of the microscope, some free nuclei similar to the preceding.

The capillaries which traverse the villousities, or which, if we please, with the cells which cover them, constitute the latter, are of the first variety or have a simple tunic, in the rounded extremi-

ties of the subdivisions of the villousities of the foetal placenta of the cow. Their parietes are homogeneous, transparent and studded with ovoid longitudinal, large and pale nuclei.

It is a mistake to say that in the human female the blood is interposed, infiltrated somehow, between the ramifications of the placental villousities as far as the foetal face of the placenta, in contact with the chorion, so that we may see it by transparence through that and the amnios. If upon a placenta still adherent to the uterus, as I have done, we cut these membranes through their whole thickness up to their contact with the cotyledons, there is in reality no flow of blood from the interstices of the villousities, except that we have cut the latter, and there results an issue of foetal blood, and not maternal, which fills them. It is true that in examining the placenta by transparency through the intact amnios and chorion, the tissue of the first shows a uniform blood-red color, which may make us believe in the presence of blood directly in contact with the chorion; and this all the more, since pressure makes this color paler and less deep than it was before. But the first of these facts rests wholly upon this, that the villousities whose ultimate ramifications are scarcely visible to the naked eye, are full of foetal blood, showing the appearance of a mass or coat uniformly red when they are examined through the amnios and the chorion. As to the less vivid tint which this mass takes, when we glide the finger over the foetal or amniotic face of the placenta, that is owing to the fact that this pressure is enough to chase the blood from the compressed portions into the neighboring portions of the villousities. For the rest, forcible injections of the uterine sinuses do not penetrate into the thickness of the placental parenchyma, except a rupture occurs (and these are easy to detect when they are produced); the injected matter does not come in contact with the chorion, and is not infiltrated into the placenta.

[To be continued.]

TRIAL FOR MURDER BY POISONING.

(Concluded from page 273.)

David Balch.—Reside in Boston. Am a chemist and manufacturer of chemicals in a small way. Have been engaged in that business six or eight months. Have studied chemistry several years. Am a graduate of the Scientific School at Cambridge.

I heard the method detailed by Dr. Hayes. It is not the best method; is not given by the authors I have read on this subject. I know of no authority for those tests. No two of these tests would be sufficient.

Have seen the effect of strychnia upon a rabbit. The effect was to contract the muscles; to form a bow from head to tail; become stiff, body as flat as though a heavy weight had been put

on it. I think it would have been possible to have held it out by the hind leg.

Bitterness is a common characteristic of the alkaloids. Strychnia is very insoluble in water—requires 7000 parts to dissolve it. Should not think that whiskey would influence the taste. It is common for the alkaloids to be precipitated. Strychnia never forms rhomboid prisms. It is not uncommon to find substances which crystallize in form of prisms and octohedrons.

I believe new tests are being discovered. I think there is no chemical test which will determine it absolutely. I regard the number of tests as merely cumulative. Nitric acid was never a test for strychnia, to my knowledge. New tests are used because the old ones are not absolutely certain.

Cross-Examination.—I mean to say that there is no chemical test which would absolutely satisfy me that any particular substance was strychnia, unless by experiments upon animal life. I have seen strychnia in all its different forms—not its salts. I buy and sell strychnia. I deal with responsible houses, and buy it of them for strychnia and sell it for the same. If I had tried all the experiments, and all were satisfactory, I should have very little doubt. I should try it first upon the living animal.

Dr. Hayes re-called.—I consider the evidence derived from a chemical analysis of the contents of the stomach very important and trust-worthy, as bearing upon the character of the death; the evidence gains weight in cases where the physiological symptoms exist, and should be connected with them, but in those cases where the symptoms of poisoning are not, and under the conditions cannot be duly estimated, a chemical demonstration of the presence of a mortal dose of poison in the stomach after death, I should consider sufficient evidence of the cause of death. The results are equally certain in regard to strychnia as in case of poisons of the metallic class. In either case, we separate from the stomach and its contents the poisonous substance, and we are able to exhibit it in its pure form—in its form as changed physically—its form as entering into combinations characteristic of the substance, and we can decompose these combinations and reproduce the substance originally taken.

The methods of analysis adopted in this case were those approved by the highest authority and used by the best toxicologists. I did not, on my direct examination, state all the tests I used.

The substance obtained from the stomach was in the form of white and perfectly pure crystals when the tests were applied. The test mentioned by Dr. Jackson has been known to me more than a year and a half. I have made experiments with it, and do not consider it a valuable test for alkaloids, nor does it distinguish strychnia. I have never added it to my list of tests, nor should I use it. I know of no old tests abandoned because new ones were

found. I know of no imperfection in the tests now used, and which have been in use many years. Improved modes of applying them have rendered them more accurate in the discovery of minute quantities of strychnia, and this has been accomplished in adopting measure and weight as applied to the tests. The new test spoken of has not been adopted by eminent or accurate chemists. It is not found in Taylor, nor in the more important treatises by Dr. Wormley. I adopted Otto's process for the fluids and Flan-din's for the solids.

The bath for the frog test was proposed by Dr. Marshall Hall, and an improvement made by Dr. Harley is introducing the suspected fluid into the stomach. That mode was adopted by Dr. Wormley, and I think by Dr. Taylor. It has characters to some extent confirmatory of the other tests. It could not be relied upon alone for the existence of strychnia. It is valuable when connected with one or more of the other tests, and is sometimes a very convenient test because it can be applied to impure liquids containing strychnia.

I do not think the term "cumulative evidence," as applied to the tests in these cases, a correct one. The result of every test is an addition to our previous knowledge of the most positive kind. Suppose I hold in my hand a crowbar, there is no person who would not call it an iron bar—but that would be no evidence to the chemist; he would apply a test—pour upon it a little aqua-fortis, and after a few minutes allow it to flow into a vessel. The appearance of the part to which it was applied would be that of a light-grey metal. If there were black portions, we should call it steel. The liquor which we have taken, mixed with a little yellow fluid, gives a rich dark-blue color; another fluid will produce a black color. No other substance but iron will exhibit these effects. Our whole knowledge in analytical chemistry is obtained through the aid of tests. Their results settle all questions which can arise, and afford the only means of advancing in accurate knowledge. In the process where oxalic acid was used and afterwards an excess of hydrate of lime, the lime formed with that acid a salt insoluble in the alcohol, which was used in the next step. The oxalic acid, as an acid, then ceased to exist. No other body whatever was in the strychnia I produced. The next further step of the process alone would have excluded oxalic acid; and the strychnia obtained was not only alkaline, but perfectly pure. No oxalic acid was employed in separating that portion used in the experiment upon the frogs.

I have spent the week days for more than twenty-five years in the laboratory. These two sheets (minutes) contain notes of a part of the operations carried on, and one of them is in part a repetition of the other. They would not be intelligible to any common person, and I doubt if any chemist could read them. I have not written out any examination, or any part of my testimony.

Cross-Examined.—An analysis for strychnia is as certain as an analysis for a metallic poison. There are no difficulties in detecting strychnia, except what belong to other bodies. There are difficulties in detecting all poisons. No chemist at the present day would say strychnia could not be found in a stomach. Pure morphia is equally white with strychnia. I saw the new test in the *Chemical Gazette* or *Times*, about a year and a half ago.

If our knowledge was perfect, nothing could be added. I don't consider my knowledge of chemistry perfect. I conducted a chemical manufactory in Roxbury nearly twenty years.

Direct resumed.—Poison of any kind, taken into the stomach, is taken up with the food by the absorbents so as ultimately to enter into the circulation of the blood, in which it acts, or is acted on, so as to produce the effects of poisoning, and if in sufficient quantity, death follows from this action. After death, entirely new conditions follow. When death ensues, the absorbents would be full of the poisoned fluid. By a very curious process, which depends on the porosity of the vessels in part, and on their mechanical structure, a solution of the poison will pass *in* at the same time that the watery fluids are passing *out*; the poisonous or foreign body remains in the porous mass. In this way a solid poison slowly disappears from its place in the stomach, and is transferred to and remains in the tissues. An illustration is offered in the process of tanning skins.

After life ceases, such a process goes on. Know of no case where death was produced by strychnia until after it entered the absorbents.

William Perry.—Reside in Exeter. Am a practising physician and surgeon. Have been in practice forty-six years. Held an appointment in a medical school. I have used strychnia for thirty years—used it a good deal. I never have seen it produce violent spasms; have used it so as to produce some effect.

I don't know of any necessary characteristic which is always found. In almost every instance there are spasmodic action and after-contractions. I can't conceive of any action of strychnia upon the muscles after death. Excessive use of alcoholic liquor produces a relaxation of the muscular fibres and is antagonistic to strychnia. I have seen no case where strychnia has been taken in this way, but I think there must be some modification of its effects. I should expect to find a modification, or something between the two extremes, where there had been a free use of spirituous liquor.

The condition of the heart must depend on various circumstances. If the system was relaxed, I should expect the blood to flow as usual. I should not attempt to form an opinion from that.

If a person in his usual health on Monday morning, and sober, eats a hearty supper at night, is taken sick in the night with spasms, and dies the next forenoon from a rum-fit, it would be a

case entirely out of my experience. I never knew a person to die in the first fit. If I found the person dead, and two grains of strychnia in his stomach, I should consider it beyond controversy that that caused his death.

It has always been considered that the absorption of liquids goes on in the stomach. The liquids are absorbed before the solid food is digested. I can't understand how the poison gets digested, goes into the circulation and back again, and kills in ten minutes. I do not know but what it is so—but I do not understand it.

Samuel B. Swett.—Reside in Exeter. Physician and surgeon—twenty-nine years in practice. Pursued studies a year or two in Europe.

There is no necessary *post-mortem* characteristic of strychnia that is always found. Rigidity of muscles found in every case I have seen but one.

I agree with the statement of Dr. Perry, but there are cases where rigidity exists after death from alcoholic convulsions. The effect of long-continued use is to render muscles flaccid.

I have never seen a person who died in a drunken fit bathed in perspiration. If two grains of strychnia were found in the stomach, I should have no hesitation in attributing death to that poison.

Bibliographical Notices.

Eighteenth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages and Deaths in the Commonwealth, for the Year ending December 31st, 1859.

THE new registration law did not go into operation until June, 1860, and consequently the Eighteenth State Registration Report (1859) has not profited by the greater accuracy and completeness in the returns which are expected to result from this law. We hope that hereafter the returns will, in these respects, be more worthy of the care and skill devoted to their analysis by Dr. Curtis.

During the year 1859, there were registered, in a population of about one and a quarter millions (1,231,535, U. S. Census, 1860), 35,422 live births, 11,475 marriages, and 20,976 deaths; being an increase of 931 births, of 948 marriages, and of 200 deaths as compared with those registered in 1858. These figures show an increase of 1442 births, and a decrease of 634 marriages and of 64 deaths, as compared with the annual average of the five years 1854-58.

The natural increase of the population, as shown by the excess in the number of registered births over the number of registered deaths, was, in 1859, 14,446, which is greater than in any one of the previous five years. The census of 1860 shows an increase in the population of 99,166 since 1855. The rate of increase since 1855 has been 8.15 per cent., while between 1850 and 1855 the total increase of the population was 158,715, and the rate of increase was 16.30 per cent. In 1855 it was estimated that 38 per cent. of the increase

during the preceding five years was due to the excess of births over deaths, and 62 per cent. was accounted for by the excess of immigration over emigration. It appears that in the four years 1855-59, 70.3 per cent. of the increase was due to the excess of births, and only 29.7 per cent. was attributable to the excess of immigration. This decrease in immigration is coincident with a change in the destinations of those who leave Great Britain and Ireland. In 1850 and 1851, no less than 80 per cent. of the emigrants from those places came to the United States; only 6 per cent. went to Australia, and 14 per cent. to the Canadas and elsewhere. In 1858, only 52 per cent. of the whole emigration was to the United States, while 34 per cent. was to Australia.

Some interesting information is given about the process of taking the census in this country and in Europe. To obtain the census of the United States, forty-four hundred enumerators were employed, which number gives one to nearly every twenty thousand of the population; several months were occupied in the process, and the cost has been \$55.00 per thousand of the inhabitants. The last census of Great Britain and Wales was taken in a single day, March 31st; the enumerators were at the rate of one to every six hundred of the inhabitants, and the cost was \$40.00 per thousand of the inhabitants.

The number of births registered in 1859 was larger than that of any other year. The rate (1 to 34 persons living) was below that of 1856 and 1857, but is about the average (1 to 34.4) of the seven years 1852-58. The birth-rate in England was 1 to 29.6 for the ten years 1847-58. It is alleged that defective registration will account for the lower rate of births in this State, which, as was remarked in our notice of the Registration Report of 1858, does not accord with the number of persons at the child-producing age living in the respective countries.

The rates vary from 1 in 30 in Suffolk County, to 1 in 66 in Dukes County. During the seven years 1852-58, the range was from 1 in 28 in Suffolk, to 1 in 69 in Nantucket. Any one who has ever visited Nantucket will recognize the natural but unavoidable necessity of its low birth rate.

The birth rates of the several cities of the Commonwealth vary considerably during these seven years. The highest is 1 to 27 of the living, and this rate obtains in Lawrence; in Boston, Cambridge and Lynn, the rate is 1 to 28, while in New Bedford it is 1 to 40, in Salem 1 to 41, and in Newburyport 1 to 48. The rate is not uniform through the year, but it is a little curious that, with us, for every seventeen births in the first half of the year there are nineteen in the last half, while in England for every seventeen births in the first half there are but sixteen in the last half. We notice an erratum on page 19, by which the words first and last are transposed, and the two parts of the paragraph made to disagree.

There were 237 illegitimate births recorded in 1859, against 293 in 1858. The whole number of this class of births in the seven years 1852-58, was 1167, being an annual average of 167 such births. It is well recognized that marriages decrease in times of financial distress, but we have never seen it stated that an increase in the illegitimate births is one of the many evils usually resulting from a monetary crisis, though perhaps such an increase is a natural correlative of the matrimonial falling off. The excess of females over males in this class

of births, which during the seven years 1852-1858 was in the ratio of 100 to 91, did not obtain in the year 1859, in which year there were registered 119 males to 118 females born out of wedlock.

The proportion of the sexes among the registered live-born during the year 1859, was 106 males to 100 females. In England and Wales, the proportion during a series of years is 104 males to 100 females. In Kentucky, it is 110 males to 100 females. In connection with this point, Dr. Curtis takes occasion to correct some statements in the Registration Reports of Kentucky and Rhode Island, by which he was made to assign a general excess in the age of the fathers as the cause of this excess of male births. In fact he simply suggested that this was, perhaps, one among various causes; which tended to produce the result. He has been supported in this opinion by prominent foreign authorities, and brings forward, from the Kentucky reports, additional facts in its favor. In Kentucky, the average age of men at marriage is 4.8 years in excess of that of women; in Massachusetts, the excess is 3.8 years. In Kentucky, as we have seen, there are 110 male births to 100 female births, and in Massachusetts there are 105 to 100. It is obvious that this point can only be settled by a thorough analysis of *all* the facts bearing upon it, and neither the pages of a Registration Report nor the space allowed in the JOURNAL give sufficient room for its discussion.

Though the number of births is larger than in any year, it is noteworthy that the number of children born to American parents has actually diminished, and is less than in 1854. This is an actual and not merely a proportional loss. We regret that tables similar to those prepared for previous reports, to show the percentages of births of different parentages and of the marriages between persons of different nativities, were not continued in the present report. It is well that important points should be presented in the same form in successive years, and these points are important as affording the best test of the extent to which the native and the foreign American are becoming socially one people.

In spite of the absorbing importance of the subject, that part of registration reports, which relates to the marriages, is usually the least interesting. In the present report, however, Dr. Curtis invests it with an adventitious interest by his account of the evidence which marriage registration in England and France gives of the education of the people. It appears that in England, in 1841, 33 in 100 of the men and 49 in 100 of the women made their marks in signing the marriage registers; in 1858, the numbers were respectively 27 and 38 in 100. Outside of the great cities the proportion of men who do not write their names in signing the marriage registers, is nearly the same (34 in 100) in England as in France; the proportion of women is higher in France than in England, the ratios being respectively 55 and 48 in every 100.

Allowing that the defects in the registration of deaths were no greater than in previous years, the year 1859 was one of unusual health in this State, and also in all other places of record. The registered death rate was 1 in 58 of the living, while the average for seven years, 1852-58, was 1 in 55. The rate varies from 1 in 48 in Suffolk County to 1 in 66 in Barnstable and in Norfolk Counties. The diminished rate of mortality is as evident in the larger cities, where registration is most complete, as in the country districts. In the four conti-

guous cities of Boston, Cambridge, Charlestown and Roxbury, which make up the most thickly settled district in the State, the rates have fallen from 1 in 38, 1 in 50, 1 in 43, 1 in 55 respectively, which were the averages for the term of five years, 1853-57, to 1 in 47, 1 in 68, 1 in 55 and 1 in 62. Had the rates stood as high in 1859 as in the five years, 1137 more deaths would have occurred in the four cities than were actually registered. In Boston alone, where registration is quite complete, there were 816 fewer deaths in 1859 than would have occurred had the rate been the same as in the five years 1853-57. In England, the death rate for 1859 was 1 in 45 (22 in 1000), which was the average rate for the ten years 1848-59. In this State the records for nine years, 1851-59, give an annual death rate of over 20 in 1,000 in Suffolk County only, the rate in other counties varying from 14.3 to 17.6 in 1,000. The canonical death rate, determined in England we believe, is 17 in 1,000, and every community with a proper regard for its sanitary reputation should endeavor to reach this standard, and hold itself responsible for all deaths above this rate. Dr. Curtis makes some just and forcible remarks upon the unnecessary amount of sickness and the pecuniary loss, which are represented by any excess over the normal rate of deaths, and refers to the distinct advantages which, in England, have followed upon the various sanitary reforms that have been carried out.

The difference between the death rate of Boston and that of the rural districts is very great, and is, no doubt, in part due to defective registration. The rate in Boston for 1853-57 was 2.614 per cent.; in the rural districts it was 1.623 per cent. In 1859 the rates were, respectively, 2.142 per cent. and 1.598 per cent. In England and Wales the rate for the ten years was, in the country, 1.977 per cent., and in London 2.448 per cent. In spite of the size of London, its death rate is lower than that of some other English cities.

Diseases of the zymotic class were the causes of 5,416 deaths in 1859. The proportion to the whole number of deaths was less than in any of the previous five years. Smallpox was fatal in 255 cases, against 12 in 1858. In 1854 the number of deaths from this cause was 207, and in 1855 it was 328. The disease was less generally prevalent through the State than we had supposed. Of the 255 deaths, 165 were in Suffolk County, 22 were in Middlesex and 24 in Hampden. The whole number of deaths from this cause in the eighteen years and eight months ending Dec. 31, 1859, is 1734, being .61 per cent. of the deaths from all causes.

Whooping cough, as in previous years, was more fatal to girls than to boys; the whole mortality from this cause was 357 (151 boys to 200 girls), and its ratio has been steadily increasing since 1856.

The diseases grouped under the term "typhus (and infantile) fever" caused 932 deaths in 1859; more than half (502), occurred in August and the autumnal months. Most of the deaths from these diseases occurred in the country; there were only 82 deaths ascribed to them in Suffolk County, against 144 in Essex, 155 in Middlesex and 130 in Worcester. The percentage of deaths from these diseases to the deaths from all causes, was 4.38 in 1859; it was 4.65 for the five years 1855-59, and 5.95 for the past eighteen years and eight months.

Diphtheria first appeared in the records as a cause of death in September, 1858, in which year 18 deaths were ascribed to it. We regret to see, by the way, that the popular error in spelling this much-used

word "diphtheria," is countenanced in the report. In 1859 there were 32 deaths from it, 13 males and 19 females. In England, 186 deaths were ascribed to this cause in 1855, 310 in 1857, and 5836 in 1858. To what extent the disease is at present epidemic in any part of this State we have no means of judging, but there can be no doubt of its existence here. It is a little curious, considering the tendency of the disease to prove fatal in women and children, that, so far as our recollection goes, a considerable proportion of the deaths brought to the notice of the profession here has been of young adult males.

Consumption is recorded as the cause of 4,704 deaths (2,039 males, 2,663 females.) Nearly one fourth of the deaths in the State (22.12 per cent.) during nineteen years are ascribed to this cause. In England, the average is something over 12 per cent. The average annual number of deaths from consumption to each 100,000 (there is an error in the figures of the report) persons living in Massachusetts, in the five years 1855-59, was 395. The same in England, in the four years 1855-58, was 268. These numbers are nearly in the proportion of 3 to 2. "In other words, where two persons die of consumption out of a given population in England, three persons die of that disease out of an equal population in Massachusetts."

Child-bearing appears to be more dangerous with us than in England. In the nine years, 1851-59, there were 1,940 deaths from the accidents and diseases incident to parturition. This gives a rate of 67 deaths to every 10,000 children born alive, or 66 to 10,000 if the stillborn are included. In England, there were 51 deaths to every 10,000 children born alive in the twelve years, 1847-58. The proportion varied from 61 (in 1848) to 42 (in 1857) deaths of mothers in every 10,000 child-bearings.

Gout destroyed two persons in 1859.

It would please a disciple of Mr. Buckle to notice how uniform during a series of years, is the proportion which the number of deaths, from some diseases, bears to the whole number of deaths. Thus, the proportion of deaths from what, under the classified arrangement, are called Constitutional Diseases (cancer, tubercular disease, &c.), to the number from all specified causes was, in 1859, 30.84 per cent.; during the five years 1855-59, it was 30.67 per cent. (the extremes being 29.43 per cent. in 1857, and 31.69 per cent. in 1855), and during the eighteen years and eight months ending Dec. 31st, 1859, it was 30.17 per cent. This uniformity is noticeable even in the special forms which such diseases assume. Thus the proportion of deaths ascribed to hydrocephalus during the five years 1855-59, is 2.14 per cent., with a variation in the separate years of only one half (.55) per cent., and the proportion in the eighteen years and eight months is 2.17 per cent. A similar uniformity obtains in other classes of disease, where it was certainly less to be expected. For instance, the proportion of deaths ascribed to the class of Local Diseases (which includes most of the diseases affecting the nervous system, the organs of respiration, circulation, digestion, &c.), is, during the five years 1855-59, 20.94 per cent., with a variation in the separate years of 1.78 per cent., and the proportion in the eighteen years and eight months is 20.66 per cent. We find the same uniformity in the various orders of this class. The proportion ascribed to diseases of the nervous system is, in 1859, 8.14 per cent; it is 8.05 per cent. during five years 1855-59 (the extremes being 7.63 per

cent. and 8.59 per cent.) ; and it is 7.63 per cent. during the nineteen years. Among the subdivisions of this order, we find that the proportion ascribed to apoplexy is, in 1859, .97 per cent. ; it is .85 per cent. in the five years (the extremes being .76 and .97 per cent.), and it is .84 per cent. in the nineteen years. The proportion ascribed to paralysis is, in 1859, 1.77 per cent. ; it is 1.57 per cent. in the five years (the extremes being 1.39 per cent. and 1.77 per cent.), and it is 1.46 per cent. in the nineteen years. A similar uniformity is seen even in diseases classed vaguely as "Heart Disease," "Liver Disease," &c. Even pneumonia and pleurisy, which we are apt to regard as due more than most diseases to particular atmospheric conditions, show a marked uniformity in the number of deaths which they cause. The percentage from pneumonia, for the five years, ranged only between 4.38 per cent. and 5.57 per cent., and was 4.59 per cent. for the nineteen years.

It is only when the facts are regarded in this way that we can clearly recognize how distinct and definite must be the natural laws that regulate the forms which disease takes to produce a certain number of deaths. The influence of local and special causes in the production of disease, is perhaps less than patients, or even physicians themselves, are apt to suppose. It is creditable to the State that its inhabitants should have been dying for some time, in the strictest conformity with natural laws, especially in consideration of the fact that it is only within two years that Mr. Buckle has shown us the advisability of so doing.

It is evident, after all, that we can accept only with hesitation the figures of registration reports which relate to the causes of death. Some points, connected with a few of the more common and easily recognized forms of disease, may be regarded as satisfactorily proved, but many of the details must be very inaccurate. To mention a single instance : Bright's disease is recorded as the cause of but nine deaths in the State during five years, 1855-59. In the same period diabetes is recorded as the cause of 152 deaths. Every physician knows that Bright's disease is infinitely the more common of the two, and perhaps the deaths caused by it were classed under the vague head of dropsy.

The registration reports of Massachusetts enjoy already a high reputation among statisticians, and Dr. Curtis labors with admirable success to make each report an improvement upon its predecessor. Mere arrays of figures are dry husks, and the interest with which these reports are received is unquestionably due to the complete and clear manner in which he sets forth the deductions that may be drawn from these figures.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, MAY 2, 1861.

SURGEONS FOR THE VOLUNTEERS.—The subject of an efficient corps of surgeons to accompany our army of volunteers, is one of so much importance at the present moment, that we cannot refrain from expressing our feelings on the subject. It is one, too, which is beset with pecu-

liar difficulties. Every one knows how such appointments are made in time of peace, when qualifications to meet the sudden emergencies of a campaign are far less thought of than the personal or social qualities of the candidate. We say this without meaning to disparage any gentleman who has held such a commission under the State,—many such we have known who would be fully competent to all that the present hour demands; but it is a fact without question, that there have been those who have held such offices, who would be entirely incompetent to discharge the high responsibilities of an army surgeon in time of war. It is no holiday service that is expected now, and no qualifications short of the highest should authorize the government to entrust the care of the health of our troops to any man. There should be no favoritism here. As is well known, the surgeons of the regular army and navy have to pass through a severer ordeal of examination than any medical school in the country subjects its graduates to. Shall it be said that our friends and brothers, whose patriotism calls them to the field at this trying hour, shall be subjected to the dangers of surgical inexperience as well? We happen to know that there are those seeking for appointments on the surgical staff at the present time, who are no more fit for them than they are to command a regiment. A medical friend casually mentioned, a day or two since, that he had been applied to by no less than three *apothecary's clerks* for recommendations for the post of surgeon's mate! We see by the newspapers that no military officer enlisted will receive a commission unless he gives satisfactory evidence to the military authorities that he has knowledge enough of the duties of his office to undertake them with a reasonable belief that he will discharge them with honor; so should it be with the appointment of surgeons. This is a matter in which unprofessional opinion is worth nothing. The Governor should have a body of advisers among the leaders of the profession in the State, who should decide on the fitness of every candidate. Rather than such important offices should be filled by incompetent persons, it would be better if the national government should be appealed to, to supply from its own staff the needed surgeons, or at once to institute examinations and give commissions to as many as the occasion requires. We have great confidence in the sagacity of our State government at the present time, and are assured that his Excellency the Governor will do all in his power to meet the necessity which has come so suddenly upon us. We write without any personal knowledge of his action in this matter, and without intending to reflect on any past appointment. Some of the candidates we have heard mentioned, are eminently qualified for the office which they seek, while others are as emphatically unfit. The office is one which should not be filled except on the strongest professional claims—claims of which only members of the profession are competent to judge.

In connection with this subject it gives us pleasure to state that on Saturday last, in response to a call in the newspapers, from several of the leading members of the profession, a meeting was held of those medical gentlemen who are desirous of specially fitting themselves for the present emergency, in the department of military surgery. At the request of that meeting, Dr. Henry J. Bigelow, the Professor of Surgery of the Med. School of Harvard University, consented to give a course of lectures and demonstrations on this important subject, at the College in Grove st., which he commenced on Monday last. The lectures

are free to members of the profession, and any physician desiring to avail himself of the opportunity, can do so by leaving his name with Dr. J. Mason Warren, No. 2 Park street. A subscription has been raised to obtain the requisite anatomical material for purposes of demonstration, and it is understood that gentlemen will have an opportunity of practising on the dead body, so far as practicable, all the operations belonging to military surgery. The course is open to all physicians, from all parts of the country.

A NEW MEDICAL BOOK.—We take much pleasure in announcing to our readers that a book entitled, "*Another Letter to a Young Physician, to which are added some other Medical Papers,*" by JAMES JACKSON, M.D., Emeritus Professor of Theory and Practice, in Harvard University, is now in press, and will be issued this week. The distinguished reputation of the author, and his many and valuable contributions to medical literature, render it superfluous for us at present to do more than call the attention of the profession to the above notice.

We understand that an arrangement has been made with Messrs. T. Metcalf & Co., 39 Tremont street, by which any Fellow of the Massachusetts Medical Society may be able to procure a copy of this book, at a great reduction from the regular retail price, by applying at the above place.

A STEP IN THE RIGHT DIRECTION.—The following bill introduced into the Legislature of Louisiana, by Dr. J. H. Stevens, to which we referred last week, for protection against the evils of quackery, as we learn from the *New Orleans Medical Times*, has become a law. It is rare that legislative action tends so directly towards the formation of the public good, and we cannot but hope that other States will be led to follow this example.

SECTION 1.—*Be it enacted by the Senate and House of Representatives of the State of Louisiana, in General Assembly convened,* That no person shall be allowed to practise medicine, as a means of livelihood, in any of its departments, in the State of Louisiana, without first making affidavit before a duly qualified Justice of the Peace, in the parish wherein he resides, of his having received the degree of Doctor of Medicine from a regularly incorporated medical institution in America or Europe, and designating its name and locality.

SEC. 2.—*Be it further enacted, &c.,* That the Justice of the Peace, before whom the said affidavit is made, be required to furnish to the person making it, a certificate of the fact, and also to transmit a copy of the affidavit to the Parish Recorder, who shall record the same in a book to be kept for that purpose; for which services the aforesaid officers shall each be entitled to one dollar.

SEC. 3.—*Be it further enacted, &c.,* That any practitioner failing to comply with the requirement of the first section of this act, shall not be permitted to collect any fees or charges for services rendered, by legal process, and moreover, shall be liable to a penalty of twenty dollars, for each and every violation thereof; said sum or sums to be collected by indictment or information, as in other cases provided by law.

SEC. 4.—*Be it further enacted, &c.,* That one half the fines imposed under this act shall be paid to the prosecutor and the remainder into the parish treasury.

SEC. 5.—*Be it further enacted, &c.,* That the provisions of this act shall not apply to persons who have been practising medicine for the space of ten years in this State without diplomas; nor to female practitioners of midwifery as such.

SEC. 6.—*Be it further enacted, &c.,* That this act shall take effect from and after the first day of January, 1862, and that all laws, or parts of laws inconsistent with the provisions of this act be, and they are hereby repealed.

DEATH OF DR. HORATIO ADAMS.—The decease of so prominent a practitioner as Dr. Adams, deserves more than a passing notice. After many years of successful practice in Waltham, where he was much respected and beloved, he died on the 22d of April, at the age of 60. He graduated at the Harvard Medical School in 1826, and was admitted a member of the Massachusetts Medical Society, in which he has since held many important and responsible offices, in 1829. In 1858, it will be remembered, he delivered the annual address. The subject was one to which he had given much attention, that of vaccination, and for the able manner in which he treated it, he was complimented at home and abroad. It is believed that he was the first in this country who succeeded in proving the identity of the variolous and vaccine diseases. After reading an account of Mr. Ceeley's experiment of inoculating the cow, he was induced to repeat it, and succeeded in confirming the results obtained by him. From a crust obtained by inoculating a cow with variolous matter, a child was vaccinated, and a vesicle appeared having all the characteristic marks of true cow pox. Thus the identity of the two diseases was proved beyond a reasonable doubt. At the time of his death, Dr. Adams was a censor of the Middlesex South District Medical Society.

One of his own townsmen thus speaks of him:—"It is long since we have been called upon to record the death of one so long and so well known, and so highly respected at home and abroad, as Dr. Adams. For nearly forty years he has been the leading physician in our town, and has thus become intimately identified with a large proportion of our people, professionally and socially. The shock which would otherwise have fallen upon us with still greater weight, has been partially relieved of its severity by the protracted confinement, which has somewhat accustomed us to the absence from his daily walks, of one whose form and countenance were so familiar to us all. But though our eyes had ceased for a time to look upon that manly frame, neither the few months that have past, nor the many years that may come, shall blot from our memories the recollection of as noble a specimen of the physical man as has ever been seen in our midst.

"Dr. Adams was a man after no common model and of no common character. As a physician, his large experience, giving him a power which no merely scholastic learning could supply, united to scientific acquisitions and eminent professional skill, as manifested in his published works and in the high estimate in which he was held by his brethren, secured to him the most unhesitating confidence of all who had occasion for his services. They will feel that the place thus left vacant can never be supplied; that his kindness and gentleness, his professional skill, his varied experience, his watchful, anxious care for them in times of trial and suffering, can never again by them be found united in the same individual. The dignity of bearing which marked his personal demeanor, was but a counterpart of the dignity of character and action which marked his life."

DEATH OF DR. DAWES.—Ebenezer Dawes, M.D., died at his residence in Taunton, on the 20th of April, at the age of seventy years. Dr. Dawes was born in Scituate, and pursued his medical studies with the late Dr. John C. Warren, of Boston. He commenced practice in Taunton in early life, and successfully continued there till his death. The following testimonial of respect from his professional brethren in

that town, shows the estimation in which he was held among those who knew him best.

At an informal meeting of physicians held at the office of Dr. J. B. Chase, Dr. Chase having been chosen Chairman, and Dr. Ira Sampson, Secretary, the following resolutions were reported and unanimously adopted:—

Resolved, That by the death of our respected friend, Dr. E. Dawes, the community has sustained the loss of an honest man and a useful citizen,—the sick are bereft of an intelligent, skilful, and kind medical adviser,—and we, his companions, are deprived of an ornament to our profession, a true friend, a reliable counsellor, and a worthy example for imitation.

Resolved, That while offering our heartfelt sympathy to his afflicted family, we feel anxious to express our high appreciation of his character as a man and as a physician.

Resolved, That a copy of the foregoing resolutions be transmitted to the relatives of the deceased, and to the public press.

(Signed)—Drs. Geo. Leonard, Alfred Baylies, H. B. Hubbard, J. B. Chase, J. S. B. Dean, Ira Sampson, Joseph Murphy, Wm. J. Burge, Charles Howe, John E. Cobb.

At a meeting of the Suffolk District Medical Society, held on Saturday evening last, it was unanimously voted, that the members of the Society will furnish their professional services gratuitously to the families of the volunteers called into the service of the United States.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, APRIL 27th, 1861.

DEATHS.

	Males.	Females.	Total.
Deaths during the week,	43	38	81
Average Mortality of the corresponding weeks of the ten years, 1851-1861,	39.9	36.8	76.7
Average corrected to increased population,	86.17
Deaths of persons above 90,

Mortality from Prevailing Diseases.

Phthisis.	Croup.	Scar. Fev.	Pneumonia.	Measles.	Variola.	Dysentery.	Typ. Fev.	Diphtheria.
12	0	3	6	0	0	0	1	0

METEOROLOGY.

From Observations taken at the Observatory of Harvard College.

Mean height of Barometrer,	29.932	Highest point of Thermometer,	69°
Highest point of Barometrer,	30.134	Lowest point of Thermometer,	39°
Lowest point of Barometrer,	29.826	General direction of Wind,	S.W. & N.E.
Mean Temperature,	48°.08	Am't of Rain (in inches) melted snow	0.057

From Observations taken by Dr. Ignatius Langer, at Davenport, Scott Co., Iowa. Latitude, 41.31 North. Longitude, 13.41 West. Height above the Sea, 585.

	BAROMETER.				THERMOMETER.				SNOW & RAIN.		Mean Amount of Cloud.
	7 A.M.	2 P.M.	9 P.M.	Mean	7 A.M.	2 P.M.	9 P.M.	Mean	Time	Measure	
Monday, April 15,	29.48	29.42	29.47	Mean	41	50	41	Mean	0 hour.	Light rain.	0 to 10.
Tuesday, " 16,	29.51	29.50	29.49	Highest	33	44	43	Height.	00 minutes.		
Wednesday, " 17,	29.47	29.20	29.09	Point,	40	51	55				
Thursday, " 18,	29.15	29.25	29.53	29.440	43	46	37	48.5			
Friday, " 19,	29.64	29.57	29.50	29.536	36	51	45				5
Saturday, " 20,	29.40	29.23	29.27		47	62	57				
Sunday, " 21,	29.21	29.07	29.04		58	74	64				

REMARKS.—Wind prevailing from the West and Southeast. Storm from the West on the 17th and 18th.

DEATHS IN BOSTON for the week ending Saturday noon, April 27th, 81. Males, 43—Females, 38.—Accident, 3—apoplexy, 3—inflammation of the bowels, 1—congestion of the brain, 1—disease of the brain, 2—inflammation of the brain, 1—burns, 1—cancer (of the breast), 1—consumption, 12—convulsions, 4—cyanosis, 1—debility, 2—dropsy, 1—dropsy of the brain, 4—drowned, 1—scarlet fever, 3—typhoid fever, 1—hemiplegia, 2—disease of the heart, 1—hernia, 1—infantile disease, 2—insanity, 1—intemperance, 1—disease of the kidneys, 1—inflammation of the knee, 1—lumbar abscess, 1—congestion of the lungs, 2—inflammation of the lungs, 6—marasmus, 2—old age, 1—paralysis, 1—premature birth, 2—puerperal disease, 1—sore throat, 3—tabes mesenterica, 1—unknown, 1—whooping cough, 2.

Under 5 years of age, 36—between 5 and 20 years, 7—between 20 and 40 years, 18—between 40 and 60 years, 12—above 60 years, 8. Born in the United States, 56—Ireland, 22—other places, 3.